Sphero Programming Activity

1. Open Sphero app and double click on the Sphero to connect
2. Click on “Programs” in the bottom ribbon, and then click “My Programs” on the top ribbon.
3. Click the + in the bottom right corner of the screen to create a new program.
4. Name your program “square”, click on the “Blocks” button, and click “Create”
5. Click the “Movement” or “Actions” tab (depends on when you last updated app) on the bottom ribbon, and click “Roll”. A block will move to the top of your program.
6. Click on the “0° “ bubble in the block you added. This takes you to the Heading. For this part, leave the heading at 0°. You will change the heading in other blocks to send your Sphero in a different direction.
7. Click on the middle bubble and set the speed to 50.
8. Click on the third bubble and set the duration to 2 seconds.
9. Click on the “Controls” tab in the bottom ribbon, and drag a “Delay” block up to your program. Click on bubble and set the delay to 1 second.
10. Use three more blocks to send your Sphero in the shape of a square. What do you need to adjust to create a square? Placing “delay” blocks in between your movement blocks will help you make crisp turns.
11. Once your program is complete, set your Sphero on the ground and aim it (Hold the “Aim” button until the blue light faces toward you. Click “Start” to run the program
12. After you run your program, click on the pull down in the top right corner and click “Sensor Data”. This will give you a graph of the path your Sphero traveled so you can compart to the shape you wanted it to make.
13. Program the Sphero to make a variety of other polygons. Shapes to consider trying (not in any particular order):
    1. Non-square rectangles
    2. Non-rectangular parallelograms
    3. Triangles (include equilateral, scalene, right, etc.)
    4. Pentagons, hexagons, etc.; both regular and irregular

* What did you (or could you) learn about polygons from this activity? How do the parameters you are adjusting build your understanding of properties of polygons?
* How is what you learned (or could learn) from this activity different from what you might learn by exploring polygon properties in another way (i.e. without technology, or with different technology)?
* What other mathematical ideas might you be able to explore with this technology? Feel free to explore the Sphero app for existing programs to give you ideas.